ALASKA DEPARTMENT OF FISH & GAME
IHCA AGENCY REPORT
October 26-27, 2005

- Denby Lloyd was appointed the new Division of Commercial Fisheries Director and Elizabeth Andrews is the new Division of Subsistence Director.

- Projected budget for FY 06 is expected to remain the same and will be depend on legislative and subsequent administrative actions. Department will be increasing fishing fees and posting a bond to support 2 new hatcheries (Fairbanks and Southcentral).

- In January 2005, ADF&G and ADNR amended their October 16, 2003 MOU regarding habitat permitting and coordination functions to further clarify roles and responsibilities for implementing Executive Order 107 and other land and water project review authorities.

- ADF&G and DNR continue to cooperate on instream flow and water resource related issues and actions per a 2002 MOU. Since last report, we have completed a reservation for the Salcha River and have provided public notice for the Little Susitna and North Fork and South Fork Campbell Creeks. Per the agreement, reservations are processed in the order of receipt, not withstanding special needs mutually agreed upon by both agencies for addressing pending water developments requiring processing an application out of order.

- ADF&G is continuing to administer and participate in Southeast Sustainable Salmon Fund (SSSF) projects. Among the projects funded is the SE Hydrologic assessment project. Under this multi-agency cooperative project we are currently funding 5 USGS index gages and water quality sites in cooperation with USGS other federal and state agencies. Arrangements were for a 4-year period, however Maybeso Cr and Halfmile Cr have been discontinued due to cooperative funding shortfalls. Current sites include Starrigavan R, Sitka; Taiya R, Skagway; Hobo Creek, Petersburg; and Falls Cr, Petersburg. We hope members will continue to contribute to this effort and help us seek funding for continuation for at least a fifth year. Please contact Joe Klein (267-2148) if you are interested in how you can participate.

- We are currently funding a USGS gages on Montana Creek (along the Parks Hwy) Jordan Creek, Unuk River, and the Situk River in cooperation with the Forest Service and have recently received Corps of Engineers funding for a gage on Chatanika River. We are looking for additional funding support to continue the Montana Creek past June 2006.

- ADF&G is continuing partnerships with local watershed groups to provide technical assistance on how to quantify instream flow needs based on scientifically sound data. We are working on a pilot project with Anchorage Waterways Council on Chester Creek in support of increased fish use from the reconstruction work near the mouth.

- Department is still involved with development of regulations for implementation of SB 140, which gives Alaska the option to assume jurisdiction from the Federal Energy Regulatory Commission (FERC) over hydropower projects that are 5MW and smaller. There has been little activity since comments were received on the proposed regulations. Keven Kleweno of RCA is the lead and can be contacted at 276-6222.

- Department continues to participate with the ACWA process. Some of the activities completed or underway include grant reviews and participation in database development and nomination of new water bodies.

Bureau of Land Management Alaska
IHCA Agency Report
April 2005

Alaska State Office

- GIS work continues on the National Hydrography Dataset for Alaska. Edits are complete in 56 of 133 4th field watersheds and attributes are completed for all watersheds. Final edits and routing of all streams should be complete in early 2006. The USGS has a contract to incorporate edits in 71 of the 4th field watersheds.

- In the AWSHED project, 5th and 6th level watersheds are complete in 130 of the 133 4th field watersheds.

- Work continues on several large land-use planning efforts in all Field Offices and at the State Office.

Anchorage Field Office

Chuck Denton, 267-1317, Charles_Denton@ak.blm.gov

- Continued operation of Unalakleet and Anvik River gages in cooperation with USGS.

- Completed an investigation of Nourse Lake glacial moraine to evaluate glacial lake flood hazards near Skagway. The final report will available in FY 2006.

- During FY 2005 an interagency agreement was created and funded between the BLM and the USGS National Water Quality Laboratory. Water quality (chemistry) monitoring will begin FY 2006.

- Golsovia trail rehabilitation project was conducted during FY 2005. Geoblock trail hardening material was installed to prevent further riparian areas and streambank degradation. Initial reports indicate this project to be a success.

- Riparian condition and fishery evaluation was conducted within the Bristol Bay area. Fishery data collected was inputted into ADFG AK fish distribution data base. Riparian data will be used within the Bay Resources Management Plan (RMP).

- The BLM and the ADFG (Jim Durst) are jointly investigating the proposed channel reconstruction/rerouting of the Salmon River around the Platinum mining claim block (Hanson Industries). This project is expected to provide increased access to spawning habitat for anadromous fish species. The collection of hydrologic and fishery data will continue in support of this effort. Hydrologic data includes: continuous river stage, atmospheric and water temperature, and monitoring water quality parameters including turbidity.

Glennallen Field Office

Mike Sondergaard, 822-3217, Mike_Sondergaard@ak.blm.gov

- The final report for the soil survey on the Delta Wild and Scenic River corridor is complete. The report will soon be available by web access at http://soils.usda.gov/.

- Continued operation of real-time transmitters for stream gage data (stage, water temp., air temp., and precipitation) at the outlet of Paxson Lake and on the Delta River near Garrett Creek. Stage and Discharge data is posted on a Weather Service web site at http://aprfc.arh.noaa.gov/. The Delta equipment is removed for the winter.

- Winter flow measurements will be continued at the Gulkana's Paxson Outlet and on the Delta at Tangle River and Garrett Creek.

- Completed water quality monitoring for fecal coliform during 2005 season on the Gulkana River. Levels were well within state standards.

- Continued PFC assessments on Gulkana and Delta tributaries

Fairbanks District Office

Central Yukon Resource Area
Carl Kretsinger, 474-2345, Carl_Kretsinger@ak.blm.gov

- Continued operating stream gages on Clear Creek, tributary to the Hogatza River, and on the Tozitna River. Both projects provide for the collection of streamflow data within BLM special management areas known as Areas of Critical Environmental Concern. The ultimate goal of operating stream gages within these two watersheds is to define the water requirements of salmon and their habitat and provide justification for the requested amount of flow under the State of Alaska's instream water reservation program.

Eastern Interior Resource Area
Jon Kostohrys, 474-2358, Jon_Kostohrys@ak.blm.gov

- Two stream gaging sites on the Dalton Highway (Jim and Kanuti Rivers) will be discontinued at the end of the calendar year. The gage at the South Fork Koyukuk River has been upgraded with satellite telemetry and should be transmitting by breakup next spring. The data logger on lower Nome Creek off the Steese Highway has also been upgraded with satellite telemetry and is currently transmitting stream stage, temperature and rainfall data.

- Currently implementing a BLM-funded, interagency agreement with USGS to operate the The Fortymile River gage at the Taylor Highway Bridge.

- Snow surveys will continue in the White Mountains National Recreation Area (4 sites), Dalton Highway (9 sites), and Taylor Highway (4 sites).

- The Nome Creek Riparian Reclamation Project continued with another 1/2 mile of steam channel reclamation this summer. Ground surveys will try to document acreage reclaimed during the past few years for a GIS map of the valley.

- The draft Open-File Report of the Water Resources of the Beaver Creek National Wild River has been accepted for publication and should be published soon. Copies will be available from BLM Public Affairs offices in both Anchorage and Fairbanks.

- A hydrologic reconnaissance of Northwestern Alaska, begun last August, was completed this summer. Sites were surveyed for streamflow, water quality, and channel characteristics. The data will be used in preparing the water resources section of the Kobuk-Seward Peninsula land-use plan.

Arctic Resource Area
Richard Kemnitz: National Petroleum Reserve-Alaska, 474-2225, rkemnitz@ak.blm.gov

- Continued operation of the following real-time BLM gaging stations: Otuk Ck nr Ivotuk: Stage (via Freewave radio/StarBand), water temp, panel temp (http://www.uaf.edu/water/projects/atlas/metdata/Ivotuksites/otuk/current.html); and Ublutuoch R nr Nuiqsut (GOES), Stage, water temp, air temp. Stage data is available at the NWS river forecast website http://aprfc.arh.noaa.gov/ and other parameters at http://amazon.nws.noaa.gov/hads/charts/AK.html

- Continued operation of gaging station on Upper Judy Ck.

- Implemented a BLM-funded, interagency agreement with USGS to operate the following gaging stations:

1. Ikpikpuk R bl Fry Ck: Stage (GOES), water/air temp, wind speed/direction, precipitation

2. Fish Ck Mile 32: Stage (GOES), water/air temp, wind speed/direction, precipitation

3. Meade R at Atqasuk: Stage (GOES), water/air temp

4. Judy Ck nr Nuiqsut: Stage (GOES), water/air temp

Additional trips will be made by BLM as needed to make discharge measurements, collect stage record, and maintain or service gages in order to reduce costs.

- Assisted in operation of the USGS gaging station on the Colville R at Umiat by servicing the gage and making discharge measurements for use in rating development.

- The BLM purchased KISTER's WISKI database in FY2005 for processing and storage of BLM streamflow records. BLM is currently cooperating with ADFG and FWS to set up training sessions and standardize data collection/processing procedures, and will also assist ADFG with their rating analysis and other records developed within WISKI database.

- Monitored 5 lake sites for long-term lake levels and changes to lake chemistry.

- Will continue working with UAF, in their monitoring of Lake L9817, eight miles west of Nuiqsut. This lake is part of Phase 2 of a DOE-funded lake recharge study involving numerous climate sites and several lakes in NPR-A and the region to evaluate the recharge characteristics of various lake basins. Information collected at these sites will assist water managers in evaluating water withdrawal permits and develop regional models for recharge processes.

- Three field trips were made last winter by BLM personnel to assist in measuring lake levels and collect water quality information and evaluate the DOE/BP/CPAI 3-year study which evaluated water chemistry changes during pumping of tundra lakes. Floating rafts used during Phase 1 of this study were converted to shore-based systems in 2005, and will continue collecting real-time D.O., conductivity, pH, stage, and water temperature transmitted to a base station in Nuiqsut/Alpine.

- Will assist and/or supplement the collection of breakup field data for studies performed by CPAI related to Fish Creek, Judy Creek, and the Ublutuoch River. In particular, focus will be made on the Ublutuoch River ice bridge crossing where the road is breached prior to breakup and flows are monitored for velocities during breakup and subsequent scour and fill are documented during low flows.

- Continued to operate two webcams and collect climate data at Umiat. Air temperature, relative humidity, rainfall, windspeed and direction, and barometric pressure are now being collected and archived.

- Continued collecting snow survey data from the snow course at Umiat.

- Continue working with UAF/GW Scientific to set up a repeater network to collect meteorological data from long-term USGS climate monitoring sites in NE NPR-A. The present network reaches from Umiat – Inigok – Alpine – Nuiqsut.

U.S. ARMY CORPS OF ENGINEERS AGENCY UPDATE

IHCA-October 26-27 Anchorage meeting

WATERSHED PROJECTS

Chester Creek: An AE firm is starting plans and specifications to replace the culverts thru the railroad embankment to provide easier access to the stream by salmon.

Eklutna Watershed and Environmental Restoration Project: A plan for the watershed study is being developed and sponsors sought. Over wintering of salmon in existing gravel pits is being studied this winter. A weir will be placed on the stream this spring to determine the number and type of salmon that currently use the stream. A target species for restoration will be selected.

Mendenhall and Duck Creeks: Not much progress made this last year.

Matanuska River: A proposal was made to develop an erosion hazard zone along the river in various eroding areas. This maybe helpful for the Matsu when developing zoning ordinances along the river.

Black Lake Environmental Restoration: Ongoing studies are indicating that there is little in the way of structural fixes that will help improve Black Lake.

COASTAL EROSION AND RELOCATION PROJECTS

Kivalina: Coastal storms continue to erode the shoreline in front of town the school and airport taxiway are currently at risk. Plans and Specifications are underway for a Section 14 Emergency Bank Protection Project to be constructed in 2006 or 2007.

Newtok: The existing village site continues to erode at an alarming rate. Work relating to an EA is ongoing along with a water supply and flood and erosion hazard study.

Unalakleet: A flooding and erosion analysis study is underway and due to be completed in 2007. The gabion erosion protection is holding up is taking a beating.

Shishmaref: the Corps and State of Alaska completed additional rock revetment work this fall. The main section of town now has a rock revetment. Relocation efforts are ongoing.

Federal/State Erosion Task Force: The first meeting was held and plan for identifying the erosion problems faced by Alaska villages is being developed.

STREAMGAGES

The Lisky's Crossing stream gage was dropped and a new gage on the Chatinika River started. The coop. gage program supports 13 stream gages located throughout the state. Additional stream gages at Kake and Nelson Island were installed and operated this year.

A data collection program that includes six stream gages and several precipitation gages for the Yakutat area has been proposed and is awaiting funding.

A stream flow, wave height, and water level data collection program was proposed for the data sparse northwest region.

Agency Report – US Army CRREL

U.S. Army Cold Regions Research and Engineering Laboratory

Report to the IHCA Fall Meeting, October 26-27, 2005 USGS Office Anchorage

- Completed fieldwork with Army National Guard (Emerson Kruger) to delineate permafrost areas at Stewart River Training Area outside of Nome. Using resistivity techniques, GPR, and electromagnetic inductance.
- Eagle River Flats pumping for white phosphorous remediation May thru September with two pumping systems. Waterfowl mortality surveys this fall showed improvements (47 compared to 111 last fall).
- Water quality sampling in Knik Arm in August during highest tides of the summer (metals, explosives, phosphorous) off of Eagle River Flats (plus off Goose Bay for control). As with previous years, showed no detectable levels. This was the third year of five scheduled.
- Soil and water characterization, looking for residual contaminants (explosives) from past and current training activities along Gerstle River, Delta River, Jarvis Creek, and Stuart Creek near Fort Greeley. Live fire 155-mm Howitzer tests/snow sampling in January at Donnelly Training Area. Live fire 120-mm Stryker mortar tests/snow sampling in February on Eagle River Flats. The goal is to determine the times of year that a given watershed would have the greatest potential for offsite migration of pollutants.
- NSF-funded project to locate mercury in the snow and sea ice during winter and track mercury during the melt. Particular attention is being paid to precipitation of mercury into frost flowers along the edges of open leads in the Arctic Ocean off Barrow.
- Study investigating the effects of boat wakes on bank erosion along RM 10-21 on the Kenai River conducted by Coastal and Hydraulics Lab/CRREL with low water inspection in early May and peak flow/peak boating in late July. Bank types were characterized according to erosive potential, vegetation, morphological makeup, boat wake effects.
- Two new Ice Control Structures being constructed following design and anlaysis by CRREL. Salmon River in Connecticut, and Cazenovia Creek near Buffalo, NY. Three ice control structures in final design in central NY state and another on the Grass River near Massena, NY where an ice jam scoured the protective clay cap over a superfund site.
- Improvements are being made to HEC-RAS to enable output of ice calculations into a GIS (through Geo-RAS). Beta version of HEC-HMS is in final debugging for the addition of a temperature index model for snowmelt. The 3-D discrete element ice forces model is being combined with the Corps ADH 2 and 3-D flow model.
- Jarvis Creek Floodplain mapping study looking at the effects of aufeis accumulations on floodplain flow. Army interested in building new facilities within floodplain.

DEPARTMENT OF COMMERCE COMMUNITY AND ECONOMIC DEVELOPMENT

DIVISION OF COMMUNITY ADVOCACY

Frank H. Murkowski, Governor

Division Report to Interagency Hydrology Committee of Alaska
October 26-27, 2005

Multi-Hazard Map Modernization of State's Flood Insurance Rate Maps.

- **Aniak's** digital Flood Insurance Rate Map (D-FIRM) out for public review.
- **Anchorage** is nearing completion on D-FIRM production of their Flood Insurance Rate Maps.
- **Juneau** coastal flood study update underway.
- **Division of Community Advocacy** as the Cooperating Technical Partner (CTP) lead State agency preparing Digittal Flood Insurance Rate Maps (D-FIRMs) for 3 Chignik communities, Togiak, Ft. Yukon, Nome, Kotzebue, Bethel and Emmonak.

- 2nd update of Community mapping priorities State Business Plan for FEMA in more detail from the 2002 Alaska Flood Map Modernization Plan prepared for FEMA.

- Alaska 5-Year Floodplain Management Work Plan - http://www.floods.org/PDF/5_Year_Plans/5yr_AK.pdf

Flood Mitigation Assistance Program.
FMA provides funding to assist the State and communities in implementing measures to reduce or eliminate the long-term risk of flood (or erosion) damage to buildings insurable under the National Flood Insurance Program.

- Flood Mitigation Assistance (FMA) project grant for elevating one home Mile 3.1 Seward Highway**.**
- FMA planning grant issued to **Aniak** to update their plan to an all hazards plan; up for City adoption Nov. 2; **Nome** All-Hazards Plan under revision.

Floodplain Management & Erosion Related Activities
Northwest Arctiv Borough joined NFIP.
Kodiak Island Borough recommended to join the NFIP so flood insurance would be available for Tsunami threat.
Matanuska River Erosion prompts Sutton Community Meeting: In response to a Matanuska-Susitna Borough request, DCA floodplain managers attend a Sutton community meeting on 10/13 Matanuska River erosion was the subject of the meeting attended by about 30 residents as well as the MSB Assembly woman. The Borough advocated a nonstructural floodplain management approach, as did USDA Natural Resources Conservation Service (NRCS). MSB Code Compliance Officer explained an ordinance being drawn up that would limit lot sizes near the river, require further review of developments, and post signs in erosion-prone areas.

Baseline Erosion Assessment Study first meeting held 10/14/05 for a technical committee to support the Corps of Engineers on a $2 million Erosion Baseline Assessment Study funded by Congress in the 12/2004 omnibus appropriations bill. The Corps has asked DCA floodplain manager to serve on the

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Telephone: (907) 269-4501 Fax: (907) 269-4539 Text Telephone: (907) 465-5437
Email: questions@commerce.state.ak.us Website: http://www.commerce.state.ak.us/dca/

project management committee. DCA has proposed using Community Profile Maps as base maps for an erosion hazard GIS layer to be added for the most erosion prone communities of Alaska.

Flooding Disasters:

Alakanuk - 4 roads and infrastructure estimated at $457,270 from May flooding.

Emmonak - cost estimates for Airport Way Road and 13 other streets and infrastructure are $1,304,093; approximately 30 homes considered moderately damaged and 90 households have damage to critical subsistence equipment estimated at $330,000. Emmonak is in the National Flood Insurance Program but no homes are identified as having flood insurance.

McGrath - State approved 10% nonfederal match needed for a Natural Resources Conservation Service 1,100' emergency erosion control levee (total project cost $2,305,785).

Sept 22-23, 2005 Many communities from Newtok to Kivalina, State declaration .

Community Profile Mapping

Staff began to provide the US Census Bureau with digital files and aerial photo imagery of rural Alaska community mapping. The mapping and photos are imported into GIS mapping software to create the Census 'Tiger files' that are used extensively to match location of homes to data gathered by Census workers. Development of the digital community profile maps have substantially improved the quality of the Census Bureau Tiger files in those areas in rural Alaska that have completed mapping projects.

Division staff provided new community profile mapping to the Indian Health Service for its efforts to track sanitation development in Rural Alaska. With the help of an Anchorage GIS consultant the IHS will integrate the new aerial photography and digital mapping into the IHS's RAHSI geographic information system. The IHS uses the mapping as a tool to help in the determination of the type and extent of sanitation services currently provided in the community. With this information the IHS and Village Safewater Program are better able to determine if they are accomplishing the mission of improved sanitation and can make more appropriate sanitation funding decisions.

Progress Continues on Community Profile Mapping

Bering Straits Region, Coastal Villages (Calista Coast), Western Aleutians, Prince William Sound/Lower Cook Inlet, Copper River Valley and Southeast Alaska. Our contractors reported new photography was obtained in Port Graham, Nanwalek, Nightmute, Platinum, Quinhagak and new and old village sites in Newtok. Extensive reviews of map products completed Elim, Wales, Shaktoolik, St. Michael, Yakatat, and Kwigillingok. Staff are working on getting funding in place and mapping under contract in Council, Solomon, Cape Wooley, New Newtok and Platinum. In all 57 Villages are currently under contract and are in various stages of completion.

Aerial Photography Obtained for Copper River Villages of Chitina, Copper Center, Tazlina, Glennallen, Gulkana and Gakona. The photography will be used for the preparation of orthophotos and topographic mapping.

Agency Report – USDA Forest Service

Report to the IHCA Spring Meeting, October 26-27, 2005
USDA Forest Service – Alaska Region

ISSUES AND PROJECTS: APRIL 2005 – OCTOBER 2005

- The Region continues to work on the Fiscal Year 2006 budget. The short take is that the Region is down about 20% from FY2005. We will be attending an EPA meeting on Source Water the week of April 25. ADEC will also be in attendance at the meeting. The focus of the meeting is on addressing source water protection in Forest Plans.
- **Memorandum of Agreement with USGS:** We are in the process of developing the MOA for FY2006 for the long-term index stream gage stations across the Chugach and Tongass National Forests. We have had to drop our commitment to Ophir Creek and are negotiating costs for the Situk River stream gage.
- **Hydrologic Condition Assessments** have recently begun for the Harris/Maybeso/12 Mile, Taitor's/Margaret, and Twentymile River watersheds.
- **Resurrection Creek**, Chugach National Forest **25 acres accomplished). An additional 12 acres were accomplished with $122,000 in Centennial Grant dollars, and 14 acres of vegetation improvement.**

  A progress report for the project can be found on the web at:
  http://www.fs.fed.us/r10/chugach/pdf/res_creek_pdf/res_prog_090705.pdf

  The EIS for this project was completed in November 2004, and no appeals were received. State/Federal permit applications were completed for the project in January 2005, and all necessary permits were in place an early May 2005. The project was put out for an RFP requesting operator time and equipment as well as equipment mobilization costs. A contractor was selected in April 2005 and on the ground work on the project started mid-May 2005 and extended through mid July 2005. Onsite supervision for all aspects of the project was provided by the Forest Service. Onsite construction included: initial survey, road construction, tree harvesting, channel diversion of Resurrection Creek, floodplain leveling, materials sorting, and channel construction.

  

  The photo here form August 2005 shows the post construction channel, including new meanders, extensive floodplain development (and leveling of mining tailings), side slough and pond development, and engineered logjams. Dead spruce was cleared from14 acres with ground disturbance for reseeding.

Stream restoration, **Chugach National Forest**

- **Knowles Head Stream Channel Restoration - 5 acres**

  The crew spent a week at Knowles Head doing watershed restoration projects. This included seeding a landslide to stabilize the soils, and stabilizing a hillslope with log structures and seeding to prevent erosion into a fish stream.

- **Russian River Streamwatch Fencing - 8 acres**

  SRD installed over 5000 feet of temporary fencing to protect fragile streamside riparian areas along 2 miles of the Russian River Anger's Trail. Eight acres were fenced off. The placement of the fence was done in partnership with the McLaughlin Youth Center. The fisheries personnel along with the youths installed the fencing in May and removed it in mid September. This also included installation of eight sets of access stairs and ten fish cleaning stations and ten fish line-recycling boxes. The fish cleaning stations and the recycle boxes are also removed and placed in storage for the winter. Four new fish cleaning stations purchased. Surveys were conducted with Archaeology personnel for the permanent post placement of fish line recycle boxes.

- **Portage Projects Revegetation** - 3 acres **Partners** – Youth Restoration Crew

  A 2-acre section of shoreline at the Freestone Pond in Portage Valley was completed by reducing the slope of the banks with a dozer, spreading dirt over most of the area, and reseeding with native grasses, willows, cottonwood, and spruce. Conditions were monitored carefully and during times of low moisture a gas powered pump mounted to a pontoon raft was toted around this section of pond to water the revegetated area. A volunteer group associated with the Youth Restoration Corps was recruited to help with the revegetation efforts. In a separate effort, the Glacier Fisheries crew planted willows and native grasses along various sections of streambank along the Williwaw Spawning Channel and Southfork of Williwaw Creek. Total area revegetated was approximately 1 acre.

- **Five Fingers Road Reclaimation -1 acre**

  An old section of highway in the Five Fingers area of Portage Valley was ripped and replanted with willows and alders to help prevent Forest visitors from leaving trash and abandoned cars in the area. Additionally, several large boulders were placed at the entrance to the old road section and old debris piles left by unknown sources were graded out and left to revegetate naturally.

- **Russian River Streambank and Shoreline Restoration with the YRC- 8 acres**

  Restoration was focused on the Russian River, the mouth of Cooper Creek and on Resurrection Creek at the Caribou Creek Cabin site. All of these projects were done through the cooperative partnership with the Youth Restoration Corps, which is a work/educational program for teenagers. Twelve teenagers, two group leaders, and the director for YRC and an employee of the forest service work on the projects.

- **Russian River (continued)**

  About 400 feet or stream bank was stabilized and revegetated on the Russian River using hand-installed root wads and other less intense methods. Another 400 foot section of land at the mouth of Cooper Creek was revegetated using dormant willow cuttings, transplanted sod, cottonwood wildlings, and native grass seed. Silt fenced was installed upslope from the revegetated area to protect it from future sedimentation. There were four study plots established to measure the effect of different types of mycorrhiza applications on the success and development of dormant willow cuttings and cottonwood wildlings transplant. Results will not be observable until late summer of 2006. About 135 feet of steep bank was stabilized and revegetated at the Caribou Creek cabin site on Resurrection Creek. This project was funded jointly by watershed and recreation dollars, since the project also included construction of a stairway access to the creek for users of the cabin.

- **McKinley Lake Tributary Channel Restoration - 3 acres**

  Crew restored the stream channel to its pre-trail crossing width via instream structures. Over time, the structures will help stabilize the banks and deepen the channel. The crew also seeded the streambanks.

Stream restoration, **Tongass National Forest**

- **Fubar Creek**, In September, a contract was awarded for a total of $312,903.00 utilizing FY05 funds. We also further developed an internal TEAMS contract to utilize Brian Bairs time during FY06 for Fubar project implementation.

  At this time, we have acquired all permits with the exception of the COE permit -- in progress as it was waiting for quantity info. Also during FY05, Bob Gubernick worked considerable days (at ENG expense) along with KK Prussian (utilizing District VW funds) to finalize a design for the project. Afterwards, Brian Bair, KK, and Bob G ground truthed the plan and adjusted minor issues. DOT has also been involved in the design, primarily concerned with the highway bridge stability. Work is planned to begin in summer 2006 and be completed by Fall 2006

- **Sal Creek** The Sal Project was awarded for just over $47,000 to be started after July 18, 2006, to Southeast Roadbuilders. It will rehab about 1 mile of mainstem stream and additional side channel and tributary streams, and remove 1 mile of road. We also contracted with Brian Bair for this and an additional project development for next year in Sal and Ratz.

- **Cooper Lake Hydroelectric Project Re-licensing** - Chugach Electric Assn., Inc. (CEA) has been working with interested agencies and user groups since Sept 2004 to develop an "Agreement in Principle" (AIP) for the Cooper Lake Hydroelectric Project FERC Relicensing. The intent has been to resolve protection, mitigation and enhancement issues associated with the ongoing hydroelectric project. Of primary interest in these negotiations has been the issue of creating temperature and flow conditions on Cooper Creek that would allow for restoration of salmon and rainbow trout spawning in Cooper Creek. The Settlement Working Group evaluated alternatives to enhance existing flow and temperature conditions, and selected an alternative that would divert flows from (tributary) Stetson Creek into Cooper Lake and release prescribed volumes of Cooper Lake water down Cooper Creek. A final version of the AIP was negotiated in mid-March 2005 and signed by all involved State and Federal Agencies, the Kenaitze Indian tribe, and three conservation user groups. CEA submitted their final license application (FLA) to FERC in late April 2005. The measures agreed upon in the AIP were incorporated into the FLA. In late August 2005, the Settlement Working completed and signed a formal Settlement Agreement based on the principles developed in the AIP. FERC reviewed the Settlement Agreement and provided favorable feedback at public meetings in early September 2005. Some adjustments in Settlement Agreement and proposed license article language are in process by the Settlement Working Group based on FERC comments. FERC intends to initiate their NEPA process for the Project relicensing in December 2005. Agencies will be reviewing stages of FERC's NEPA documentation in 2005-07, and relicensing is scheduled to be completed by spring 2007.

- **National BMPs:** The Forest Service has “completed” a USFS national core set of BMPs and effectiveness monitoring protocol. A national handbook and monitoring protocol will be used by the Forest Service to establish consistency as well as accountability for activities on National Forest Systems Lands across the nation.
- **National Watershed Condition Protocol:** The Alaska Region is the lead for developing a national protocol to assess the condition of 5th field hydrologic units. The draft should be completed by the end of November.
- **Watershed Restoration Plan Guidelines**: Draft guidance on developing watershed restoration plans should be out for review by the end of November. These guidelines document how to develop a plan and what the contents of the plan should be.
- **Watershed Program Manager Outreach**: The Alaska Region will be starting an outreach in January to fill the Watershed and Air Program Manager’s position in late August of 2006.

Alaska Department of Environmental Conservation (DEC)
Agency Report
for the
Interagency Hydrology Committee for Alaska
October 26-27, 2005
Anchorage

WATER QUALITY STANDARDS UPDATE: DEC is continuing the triennial review to address Water Quality Standards that require special consideration to work in Alaska's environment.

- **MIXING ZONES:** New mixing zone regulations were published in a public notice on October 17. The public comment period ends on December 19. There is a public hearing in Anchorage with statewide call-in on December 5. Public workshops will be held on November 30 in Juneau, December 1 in Fairbanks and December 5 in Anchorage.

For the latest update go to http://www.dec.state.ak.us/water/wqsar/wqs/wqs.htm
contact Nancy Sonafrank at (907) 451-5170 or nancy_sonafrank@dec.state.ak.us.

WATER QUALITY MONITORING AND ASSESSMENT STRATEGY: The final Water Quality Monitoring and Assessment Strategy was published September, 2005 at: http://www.dec.state.ak.us/water/wqsar/monitoring/DEC_monitoring_strategy_final_2005.pdf The Strategy is intended to meet the federal expectations for state water quality stewardship activities enumerated in the Clean Water Act (CWA) in a manner influenced by Alaska's unique needs and challenges.

ACWA GRANTS AWARDED JUNE, 2005–Local governments, the University of Alaska, a Traditional Council, a Native corporation, and citizen groups are the recipients of more than $600,000 in water quality grants being awarded today. The Alaska Clean Water Actions (ACWA) partnership between the Departments of Environmental Conservation (DEC), Fish and Game, and Natural Resources awarded 16 grants to assist the State in its clean water objectives and focus work efforts on waters in greatest need of protection and restoration.

ACWA grants are balanced to protect unimpaired waters and restore waters that are considered polluted or impaired. Applicants can apply for multiple funding sources from the state resource agencies with a single grant application. Through the ACWA process, priority waters and actions are identified, and groups that are willing to take action can compete for the available grants. For more information about ACWA and the list of priority waters and actions, log onto our website at www.dec.state.ak.us/water/acwa/acwa_index.htm

ALASKA CLEAN WATER ACTIONS GRANTS - FY06

Below are summaries of the Alaska Clean Water Actions (ACWA) Grants for projects starting in July 2005 and finishing in June 2006. The summaries are arranged by region of the state and include the contact information for the group doing the project.

SOUTHEAST REGION

Duck Creek Monitoring, Cleanup and Culvert Replacement, (Juneau) Mendenhall Watershed Partnership, $31,950

Duck Creek is in need of recovery due to water quality concerns with sediment, residues, turbidity, dissolved oxygen, fecal coliform, and altered flows, which have resulted in significant declines in salmon returns. This project will replace failing and inadequate culverts along Duck Creek that impede fish passage, continue to remove debris, and implement the monitoring strategy developed this year to assess the effectiveness of restoration practices. Environmental benefits include: improved water quality for in-stream and estuary ecosystems, reduction in the amount of debris that cause pollution and restrict fish access, and improved flow and habitat quality by reducing iron floc and improving dissolved oxygen levels. Contact Mark Jaqua, 907-586-6853.

Jordan Creek Watershed Recovery, (Juneau) Mendenhall Watershed Partnership, $30,430

Jordan Creek is currently impaired from trash, sediment, and low dissolved oxygen, which have resulted in declining salmon runs. This project will remove debris and barriers to fish movement, work with the City and Borough of Juneau and local residents on steps to reduce further debris buildup, and design a stabilization and restoration project for a tributary of Jordan Creek. Environmental benefits include: reduction in the amount of debris that cause pollution, improved flow and habitat quality. Contact Mark Jaqua, 907-586-6853.

Pederson Hill Creek Restoration (Juneau) Mendenhall Watershed Partnership, $16,049

Pederson Hill Creek is impaired by bacteria contamination that has been documented since the 1980s. This project will develop a watershed assessment and management plan that addresses fecal coliform pollution. Environmental benefits include: identification and measurement of pollution from industrial sites, on-site septic systems, and road maintenance. The assessment and management plan will recommend actions to reduce contamination or promote restoration and remediation of pollution sources. Contact Mark Jaqua, 907-586-6853.

Granite Creek Recovery Project, City and Borough of Sitka, $19,100

Sitka will continue the restoration of Granite Creek, for which long-term pollution problems have been identified. Since 2001, with the help of ACWA grants, the City of Sitka has developed a Total Maximum Daily Load (TMDL) and restoration strategy and has begun cleaning up the creek. The Granite Creek Watershed Recovery Strategy and TMDL were approved in September 2002. This project implements the remaining tasks in the multi-year strategy that will result in consistently meeting water quality standards. Environmental benefits include fully restoring water quality through: stormwater drainage and treatment improvements; maintaining and establishing stable and functional stream buffers; seeding and stabilizing erodible soils to achieve biofiltration of sediments; and verifying effectiveness of numerous sediment controls through water quality monitoring and environmental audits. Contact Mark Buggins, (907) 966-2256.

Pullen Creek Restoration, Skagway Traditional Council, $43,021

Pullen Creek is impaired, with historical studies showing elevated levels of lead, zinc, cadmium, copper and mercury, and concerns about other parameters. Since 2003, with the help of ACWA grants, the Skagway Traditional Council has conducted monitoring on Pullen Creek to determine the levels of various parameters and scope of impairment. Using the information conducted from the past monitoring efforts, this project will develop a waterbody recovery plan in accordance with DEC requirements. Contact Lance Twitchell, (907) 983-4068

Skagway Stormwater Mapping, Taiya Inlet Watershed Council, ($22,000)

Currently there is no stormwater management plan for the community of Skagway or the upper Taiya Inlet Watershed. This project will, in collaboration with the City of Skagway, lay the foundation for creating a stormwater management plan to protect and improve water quality in waters in the Skagway area. The project will map Skagway stormwater discharges and collect baseline information, and educate residents and others about stormwater management. Contact Amber Bethe, (907) 983-2426.

Status & Trends of Fish Habitat on Private Timberlands in SE Alaska, (Southeast Alaska) Sealaska Corp., $68,081

The grant will complete a study on the status of fish habitat in Southeast Alaska. Since 1997, several basins that were surveyed have been logged; therefore, post-logging data need to be collected at many of these sites to determine how well existing practices protect fish habitat. This project is funded to complete monitoring on all basins where pre-logging and pre/post-logging data exist to document status and trends in habitat conditions. Results will facilitate a state resource agency evaluation of forestry Best Management Practices (BMP) effectiveness. Contact Ronald Wolfe, 907-586-9277.

NORTHERN/INTERIOR REGIONS

Copper River Watershed Baseline Assessment, (Copper River Watershed) Copper River Watershed Project (CRWP), $33,292

The Copper River watershed is a priority for protection, with water quality being a primary concern. The Copper River Watershed is used for anadromous fish spawning and rearing, subsistence, and recreation. In 2005, the FishWatch Planning Team, an inter-jurisdictional partnership of state and federal agencies, non-profits, Tribes, and the CRWP delineated the Copper River watershed into sub-watersheds, identified stressors of fish habitat and water quality, and ranked the region's sub-watersheds according to vulnerability. In FY 2006 the CRWP will collect water quality and human use data for selected lakes, streams, and rivers, including hydrocarbon monitoring at Eyak Lake, and identify storm water discharge contents at key sites in Cordova (including Eyak Lake). These efforts will help protect the Copper River watershed's salmon based economy by identifying potential problems that need to be addressed to assure the continued high quality of Copper River spawning, rearing and migration habitat.

MAT-SU REGION

Cottonwood Creek Water Quality Monitoring, Matanuska-Susitna Valley, ARRI, $38,531

Cottonwood Creek is a priority water in need of recovery with foam and debris pollution from urban runoff and development being a primary water quality concern. Significant amounts of foam have been frequently observed in the Creek since 1998. During summer, portions of the creek have algal blooms and clear, gelatinous, slimy algae growth which may be associated with increased nutrients. Past analyses of fish have indicated lesions that may be associated with water pollutants. Other recent monitoring indicates elevated temperature and fecal coliform bacteria levels. Initial assessments begun in 2004 suggest foam is due in part to natural conditions; however, more data are needed to determine if septic systems are contributing nutrients that may increase the foam levels. This year's project will continue to evaluate temperature conditions and further identify bacteria and other pollutants from septic systems that may be entering the

stream. The information will be used to develop strategies to address pollution sources. Contact Jeffrey Davis 907-240-3422.

Montana Creek Impact Assessment, Matanuska-Susitna Valley, ARRI, $41,584

Montana Creek provides spawning and rearing habitat for salmon and trout; the lower reaches supports one of the most popular salmon fisheries in South-central Alaska and the upper river provides a trophy rainbow trout fishery. Recreational development impacts have resulted in the loss of riparian vegetation and may be affecting the water quality and habitat components necessary to support the fish resources. This project will evaluate the current condition and causes of habitat modification, monitoring their effects on stream conditions. It will survey the Creek and quantify habitat modification by type and location. Monitoring stations will be established at 3 locations to evaluate water quality, water quantity, and habitat. The information collected will be used to develop measures that protect water quality and fish habitat. Contact Jeffrey Davis 907-240-3422.

Upper Susitna Watershed ATV impact planning, Upper Susitna Soil and Water Conservation District, $20,000

Several streams in the upper Susitna Valley have been identified as high and medium ACWA priority waters, partially due to ATV impacts. Based on past and ongoing assessments and monitoring, this project will identify specific locations for hardening ATV crossings and for locating ATV bridges and identify and implement appropriate outreach campaigns to reduce ATV impacts. Contact Rick Ernst, 907-733-7923.

ANCHORAGE REGION

University Lake Spatial & Temporal Distributions of Bacteria, (Anchorage), UAA Engineering, $65,000

University Lake is a waterbody currently listed as impaired for fecal coliform, which is used as an indicator for pollution from wildlife or human sources. This project will conduct monitoring to investigate the distributions of fecal coliform bacteria in the lake and the sources of the bacteria. The project will focus upon how lake conditions influence the longevity and distribution of fecal coliform within the lake to provide recommendations for a recovery and monitoring plan. It is anticipated that the research results may be helpful for decisions at other lakes with fecal coliform since many of the same conditions will be prevalent in similar waterbodies throughout the region. William E. Schnabel, (907) 786-1912.

KENAI REGION

Anchor River Watershed Monitoring, (South Kenai Peninsula), Community Rivers Planning Coalition, $51,750

The Anchor River is a priority water with water quality concerns for temperature, turbidity and phosphorus. This project will continue to provide online, in-stream monitoring stations located near the mouth of the Anchor River, just above the confluence of the North and South Forks to further determine the sources and timing of temperature and turbidity problems. A main objective is to determine natural turbidity and temperature conditions. This is important in evaluation of future river conditions. Determining natural turbidity conditions is difficult for the many natural conditions a river system experiences, however, unless frequent measurement intervals are used. The combined work will help differentiate natural and human caused turbidity sources so that strategies can be developed to address the human caused sources. Contact Jessica R. Blackledge 907-235-8177.

Kenai Peninsula Salmon Streams, Homer Soil & Water Conservation District, $90,500

This project addresses Deep Creek, Anchor River, and Ninilchik River, which are priority waters in need of protection, with habitat and water quality being primary concerns. Water quality standards of concern are temperature, turbidity and phosphorus. This project, which addresses ACWA priority actions for these rivers, will determine the spatial and temporal extent of elevated temperatures; assess relationships with local air temperature data; identify warmer tributaries and possible pollution sources due to human activities; evaluate whether existing turbidity data are representative of natural conditions; collect turbidity data to determine if sediment is related to human activity, continue to monitor nutrient levels to determine if elevated phosphorus levels are geologic or anthropogenic, and evaluate stream bank impacts on the Anchor River. Water quality information will facilitate resource management decisions that will protect these economically important salmon streams. Contact Shirley Schollenberg, 907-235-8177.

Kenai River Bacteria Monitoring, Kenai Watershed Forum, $41,575

This project addresses the Kenai River, a priority water with water quality and habitat concerns. The project will follow-up on previous studies by addressing fecal coliform concerns in the River. Over the past 5 years, data collected by the KWF has indicated an anomaly of elevated fecal coliform in the Lower Kenai River as well as several tributaries. This project will help determine the sources of the fecal coliform so that strategies may be developed to address them. Preliminary data indicate that spring and early summer in the lower Kenai River are where the highest concentrations of fecal coliform are regularly detected. It is unclear if these bacteria are from local runoff, runoff from small tributaries, tidally transported or derived from local groundwater. Contact Robert Ruffner, 907-260-5449.

WESTERN ALASKA REGION

Lower Nushagak Fecal Coliform and Water Quality Screening, Alaska Soil and Water Conservation District, $24,175

The Nushagak River is a large, highly productive salmon-producing system in Southwest Alaska and is a priority ACWA water. It provides significant subsistence, commercial, recreational and other resource-based benefits. Uses are increasing and projected to continue. Very little water quality monitoring has been done on this system and concerns about bacteria and other pollution from recreational and other uses are growing. This project would collect screening-level water quality data to provide initial data to determine long-term monitoring and management strategies for the watershed. Contact Lisa Ferber, 907-271-2424.

Interagency Hydrology Committee for Alaska
Agency Report –October 26-27, 2005, Anchorage, AK
U.S. Fish and Wildlife Service, Region 7
Water Resources Branch, and Ecological Services and Fishery Resources

Water Resource Investigations
The Fish and Wildlife Service currently has 21 stream gaging stations in operation.

Becharof Refuge: Egegik River at the outlet of Becharof Lake is being gaged; the project will continue. Project Hydrologist - John Trawicki 786-3474

Togiak Refuge: Stream gaging was initiated in October, 1998, at 20 sites on the Togiak Refuge. At least 15 of these sites will be discontinued at the end of Water Year 2004. Project Hydrologist - Alan Peck 786-3662. * indicates gage will be operated in WY-2005.

Snake River	Kanektok River*#	Goodnews River*#
East Fork Arolik River	Arolik River#	Upper Goodnews River
Togiak River*#	Pungokepuk River*	MF Goodnews River#
Kinegnak River	Unaluk River	Upper MF Goodnews River
Quigmy River	Matogak River	Kulukak River*
Gechiak River	Ongivinuck River	Igushik River
Osviak River	Faro Creek	

Kodiak Refuge: 9 gages were installed in Oct.of 2000, They were temporarily out of operation due to funding (2001). They are currently operating. Project Hydrologist- Jasper Hardison 786-3458

Akalura River#	Ayakulik River#	Dog Salmon Creek (2)#
Karluk River (2)#	Sturgeon River	
South Olga Creek	East Fork Uganik River	

Tetlin Refuge: 6 gages will be operational on the Tetlin Refuge in FY-05. Project Hydrologist-Alan Peck 786-3662.

Gardiner Creek	Kalutna River
Desper Creek	Mirror Creek
Scottie Creek	Nebesna River

# indicates water quality samples are being taken.

ENRI monitoring 3 locations on the Tetlin NWR.

Other Hydrology News

X We are collecting water chemistry to establish baseline water quality conditions at select stream gaging stations. Measurements and samples will be taken at stream gaging stations during normal site visits.

X Hired Cathrine Hill as a term (2 yr) Hydrologic Technician GS-1316.

X Working with ADF&G and BLM on training and standards for WISKI software. Hydrologic time series database/statistical software package.

Ecological Services and Fishery Resources:

John: As a statewide program, we plan on over $1 million in restoration or educational projects in 2006.

Some individual projects of interest to IHCA -

For 2006 Habitat Restoration will begin Phase II Moose Creek realignment near Sutton. Quarter mile of creek realignment from straightened channel during coal mining days.

F&G surveyed Nome and Kodiak culverts in 2005 for fish passage. Over 1100 culverts surveyed Statewide, some through our programs and we continue to work with DOT and F&G on making better culverts for fish passage and prioritizing existing ones, as DOT is getting $5 million to address problem culverts.

Anchor River geomorphic assessment by Kenai Watershed Forum through our grants is getting good information and finding out very interesting things about gravel mining and the Kenai flood effects to the river. Its anticipated that this assessment will continue through 2006.

Geomorphic and habitat assessments for the Big Lake watershed this year got 12 miles of main stem assessed. We plan to continue assessing in the Valley next year and this winter put it into a shapefile format for agency viewing. Anyone want to help in hydrographic or assessment? We also plan to put in a couple pressure transducers in Meadow Creek and Wasilla Creek for light gaging activities.

Other projects are of less interest to IHCA.

William Rice, P.E.
Hydrologist
U.S. Fish and Wildlife Service
605 West 4th Ave., G-61
Anchorage, AK, 99501
907-271-1798

NATURAL RESOURCES CONSERVATION SERVICE AGENCY UPDATE
IHCA – October 26th – 27th Anchorage, Alaska

State Staff Changes: **New State Conservationist – Bob Jones started in May, came from Alabama**
New State Conservation Engineer – Brett Nelson, started in August, previous Tour of Duty was in Fairbanks
Departures – Lori Richter retired
Replaced by - Aimee Rohmer, moved from Mat-Su Field Office to State Office in Palmer
New Snow Survey Hydrologist – James Montesi, from Boise Idaho

Staff Contacts:

Brett Nelson - NRCS State Engineer
761-7717 brett.nelson@ak.usda.gov
Rick McClure – Snow Survey DCO
271-2424x113 richard.mcclure@ak.usda.gov

WATERSHED PROJECTS

- Rika's Roadhouse – NRCS completed final designs and the environmental assessment to assist Alaska Parks and Recreation in stabilizing erosion along the Tanana River. Due to controversy regarding the chum spawning habitat and potential impacts, Parks was unable to obtain necessary permitting to construct the project as designed. USFWS agreed to redesign the project to satisfy their habitat concerns. The redesign is in progress and is scheduled for completion by January 2006. The new design will still incorporate stream barbs (only 2 instead of the 4 in NRCS' design). The EA has been updated, a FONSI issued, and construction is anticipated to be completed by early summer 2006.

- City of Soldotna – Work is nearly complete on the construction to treat erosion and recreational access along the Kenai River. There were several phases to this multi year project and work is coming to a close in early summer 2006.

- City of McCarthy – NRCS contracted with Interfluve, Inc. of Hood River, Oregon and produced a Floodplain Management Study for McCarthy Creek. Additionally, several potential solutions to the aggradation/flooding/erosion problem were preliminarily analyzed for viability and a very rough cost estimate. The reports were presented to the McCarthy Area Council at their annual meeting on September 30, 2005. The crux of the problem at McCarthy is the abandonment of the East Fork channel of the Kennicott River. Due to the channel abandonment, there is no longer sufficient energy in the system to remove current sediment loads and therefore McCarthy Creek is aggrading rather rapidly and frequently spilling out of bank.

- The Tanana River Floodplain Acquisition Project at Salcha, Alaska has commenced. The project purpose is to reduce flood induced damages and to restore floodplain function and values. The project is a voluntary acquisition program and the restored land will be maintained in perpetuity for floodplain use and function. NRCS received applications from approximately 130 interested property owners. NRCS has requested additional funding for the next several years in order to adequately address the needs in the area.

- The replanning effort on the Delta Clearwater River Watershed Project in Delta Junction, Alaska is still moving forward. Conceptual design is complete on the leading solution from the planning effort. A fifteen foot high dam approximately 7 miles long is the leading alternative at this point for preventing sediment loads from the Rhoads/Granite Creek watersheds from entering the Clearwater River and damaging the salmon spawning habitat. NRCS is currently working with project sponsors to determine existing levels of support for a project of this magnitude.

Watershed Planning Activities

- A watershed planning effort is underway at Harding Lake, led by the Salcha-Delta Soil and Water Conservation District. Local citizens are interested in raising the lake level. COE provided LIDAR data, and a preliminary water budget has been completed. A geotechnical investigation is complete, design is in progress, permit applications are submitted, and construction is anticipated for March 2006.

Emergency Watershed Protection

- Village of Metlakatla – This project was designed to stabilize a hillslope and protect 9 houses in the village. Construction was completed in late September 2005.

- Village of Evansville – There is significant bank erosion on a high bank of the Koyukuk River near Evansville. This erosion is currently threatening 5 homes. It appears there is no workable cost effective solution to stem the progress of the erosion. However, NRCS has received funding to offer relocation/buyout to the affected property owners. It is anticipated this work will be completed Spring 2006.

- City of McGrath – There was significant bank erosion on the bank of the Kuskokwim River near McGrath which has damaged the city's flood protection levee. NRCS has received funding to repair approximately 1,100 feet of levee and stabilize the bank along that portion of levee. In addition, there are 8 properties that are immediately threatened by erosion and there is insufficient space to provide bank protection in this area so NRCS has received money to offer buyouts/relocations for these properties. Design work is in progress. Construction should commence in May 2006 and be completed by end of June 2006.

SNOW SURVEY ACTIVITES

The following is the progress made in Alaska Snow Survey/Water Supply Forecasting Program (SS/WSFP) for the fiscal year 2005

NRCS appreciates the In-Kind Services provided annually to the Snow Survey Program from each of the agencies and private companies.

- Seven new radio telemetry sites were installed this field season: 5 sites in the in Prince William Sound where 4 sites with met towers that have climate data and web cam pictures transmitted by Starband (Port San Juan, Esther Island, Tatilek and Nuchek), one new SNOTEL site at Mt. Eyak (above the town of Cordova), one new SNOTEL site at Anchorage Hillside (along the power line below the Glen Alps parking lot), and 1 new SNOTEL site at Kantishna (north side of Denali Nat'l Park).
- Gobbler's Knob SNOTEL site quit reporting June 15th due to a wildfire. The structure for the Wyoming shield around the snow fence had to be rebuilt along with replacing the wire running from the met tower and the precipitation gauge; both were melted in the tundra fire. The shelter survived due to the mineral soil around it acting as a fire break.
- Two snow courses have to be relocated due to ski trail construction. The Arctic Valley #2 snow course at 1000 ft elevation and the Kincaid Park snow course.

Currently we are responsible for **42 SNOTEL** sites reporting hourly information to the web site **ambcs.org**. The web site has daily midnight readings since the beginning of the Water Year. We have stored the midnight readings in an annual file for all sites for all years of record that have daily data, this is available on ambcs.org.

The Alaska staff currently consists of a Hydro-tech and Data Collection Officer (DCO). We had summer hire Hydrologist whose work ends this week. To assist with the data from 42 SNOTEL sites and 9

additional sites with on site data loggers recording daily data, and more than 200 snow courses we have hired a full time Hydrologist, James Montesi. James will be arriving in Alaska Thanksgiving week and comes from the Boise NRCS Snow Survey Data Collection Office (DCO) where he has been in the program for 1 ½ years.

NOAA NWS Agency Report

Presented by
Larry Rundquist
Development and Operations Hydrologist

National Weather Service
Alaska-Pacific River Forecast Center (APRFC)
http://aprfc.arh.noaa.gov
October 2005

Management and Staff

Current staffing and contacts are as follows:

Robin Radlein - Regional Hydrologist/Alaska Region & Hydrologist in Charge of APRFC
266-5151 or robin.radlein@noaa.gov
Larry Rundquist - Development and Operations Hydrologist
266-5152 or larry.rundquist@noaa.gov
Becky Perry - Hydrotech/Administrative Assistant, 266-5150 or becky.perry@noaa.gov
Contact all APRFC staff via email at nws.ar.aprfc@noaa.gov

Hydrologists
Scott Lindsey, 266-5157
Dave Streubel, 266-5156
Ben Balk, 266-5155
Jim Coe, 266-5159

Hydrometeorological Analysis & Support Forecasters
Jeff Perry, 266-5158
Arleen Lunsford, 266-5153
Eric Holloway, 266-5154

Weather Forecast Office Hydrology Contacts:
Anchorage - John Papineau, Senior Service Hydrologist, 266-5165
Fairbanks - Ed Plumb, Service Hydrologist, 458-3714
Juneau - Mike Mitchell and Aaron Jacobs, Hydro Focal Points, 790-6824

Operations/Flooding

Preliminary breakdown of hydrologic events based upon severity:

	Apr	May	Jun	Jul	Aug	Sep	Tot
High Water	4	11	6	5	3	3	32
Arial Advisories	0	1	6	6	1	0	14
Nuisance Flooding	2	0	1	1	0	2	6
Minor Flooding	7	12	1	2	3	3	28
Moderate Flooding	0	2	0	0	0	0	2
Major Flooding	0	0	0	0	0	0	0
Total	13	26	14	14	7	8	82

Preliminary breakdown of hydrologic events based upon causative event:

	Apr	May	Jun	Jul	Aug	Sep	Tot
Breakup ice jam	6	19	0	0	0	0	25
Snowmelt	7	6	2	0	0	0	15
Rainfall	0	1	10	14	6	7	38
Glacier melt	0	0	0	0	0	0	0
Freeze-up ice jam	0	0	0	0	0	0	0
Jokulhaup	0	0	2	0	1	1	4
Total	13	26	14	14	7	8	82

A late April warming triggered the melting of the heavy snowpack in Interior Alaska, causing local snowmelt flooding. Snowmelt also contributed to numerous locations with ice jam flooding on rivers including the Kuskokwim, Yukon, Buckland, and Kobuk Rivers. The moderate breakup ice jams flood events were on the Yukon River at Fort Yukon and Emmonak.

River/Rain Gauge Network

We began or will soon begin to collect automated stage data at the following sites:
CKTA2 - Chilkat River at Klukwan (upgraded NWS manual observation site using RWIS telemetry)
MAGA2 - Matanuska River at Glacier Park Resort (upgraded NWS manual observation site)

We enlisted observers to do manual stage readings at the following sites:
NELA2 - Little Nelchina River at Glenn Highway
GRSA2 - Gulkana River at Sourdough (replaces discontinued USGS gage)
KLUA2 - Klutina River at Klutina
CTOA2 – Chistochina River at Chistochina
CCTA2 – Copper River near Chitina
MACA2 - Maclaren River at Denali Highway (plan to automate next season)
MOWA2 - Moose Creek at Oilwell Road
KOWA2 - Kroto Creek at Oilwell Road

A new weather station will soon be installed at the following location:
MACA2 - Maclaren River at Denali Highway

Rain gauges were added to automated gauges operated by other agencies.

The Climate Reference Network program has installed two sites in Alaska:
1. St Paul Island
2. Sitka

We are installing several simple frost depth gages in Anchorage and one in Palmer this fall.

We added an ice thickness measurement observer at Napaimute on the Kuskokwim River last winter and expect to identify additional locations for measuring ice thickness this winter. We hope to receive ice thickness data from UAF researchers from their lake ice measuring network in Alaska. We hope to continue to receive ice thickness data that are measured by other agencies during discharge measurements or other studies to augment ice data collected by our observers.

ASOS Precipitation Gauge Replacement

The All Weather Precipitation Accumulation Gauge (AWPAG) has been added to 20 of the 44 Automated Surface Observing System (ASOS) sites in Alaska to improve measurements of freezing and frozen precipitation accumulation. The sites with AWPAG are: Anchorage, Annette, Barrow, Bethel, Bettles, Big Delta, Cold Bay, Fairbanks, Gulkana, Homer, Juneau, King Salmon, Kodiak, Kotzebue, McGrath, Nenana, Nome, Saint Paul, Talkeetna, and Yakutat.

Airborne Snow Water Equivalent Program

All Alaska flight lines were flown during the period 23 April through 9 May, 2005. The data are displayed on the following web page:
http://www.nohrsc.noaa.gov/snowsurvey/gamma_surveys/20050423_ak.html

Projects

Operations occupied the bulk of the time during the past 6 months, so project work was limited. This winter, we will be working on a number of development projects aimed at improving our service.

Useful Link

NWS Climate Services Division:
http://www.nws.noaa.gov/om/csd/index.shtml

U.S. GEOLOGICAL SURVEY AGENCY REPORT

October 2005

FISCAL YEAR 2005 FINANCIAL STATUS

Federal fiscal year 2005 saw a very slight increase to $5.8 M in total funding for the U.S. Geological Survey (USGS) Water Resources Office. One half of the funding came from other Federal, State, and local agencies, with other Federal agencies providing about $1.0 M. State and local agencies provided $0.5 M of funding in excess of the matching funds available from the USGS.

During 2005, Senator Murkowski introduced legislation (S. 1338) known as the "Alaska Water Resources Act of 2005" which among other things called for a series of studies of water availability and a review of the need for additional streamgages. The bill has not yet been voted on. In early October 2005, members of Senator Murkowski's subcommittee on Water and Power sent a letter to the Secretary of Interior and the Director of the Office of Management and Budget requesting substantial increases in funding to the USGS National Streamflow Information Program and the Cooperative Water Program beginning in 2007.

Status of the Data Program

Table 1.-- Data Collection Program as of September 30, 2005

Alaska District

Station Type	Number of Stations	Average Cost Per Station[1]
Streamflow gaging station (w/o telemetry)	42	$22,890
Streamflow gaging station (w/ telemetry)	89	$22,890
Partial record station	0	
Crest stage gage	58	$7,630
Periodic surface-water quality	12	$7,630
Continuous surface-water quality monitor	25	$7,630
Periodic sediment	6	$7,630
Continuous sediment	0	
Reservoir stage	1	$15,260
Periodic ground water levels	0	
Continuous ground water levels	25	$7,630
Ground water levels w/ telemetry	0	
Periodic ground-water quality	0	
Continuous ground-water quality	0	
Precipitation/meteorological	46	free (not published, NWS provides gage)

[1] All gage costs assume station is within a 1/2 day drive of a field office. Travel logistics can increase costs by as much as $60,000.

Status of the Studies Program

Data collection for several short-term studies was completed in 2005. These include:

Project name (short)	Funding source
Crescent River QW	USGS/NPS QW partnership program
Yukon River NASQAN	USGS
Kijik River QW	NPS
Tanana EMAP	ADEC/USGS
Duck/Jordan Flood modeling	CBJ/USGS
Mendenhall Valley GWSW interaction	USFS/CBJ/USGS
Mat-Su Lakes	MSB/USGS

Work continued on studies of bridge scour (Statewide) and the geomorphology of the Copper River in the area of the Million Dollar Bridge funded by the Alaska Department of Transportation and Public Facilities. Additional real-time scour monitoring sites were established at the Lowe River, Red Cloud River, Sheridan River, and at three bridges on the Copper River. The scour web site (http://ak.water.usgs.gov/usgs_scour/index.php?pageId=2) was greatly enhanced in 2005. A multidimensional hydraulic model was developed for the Knik River for use in evaluating predictive scour equations. LiDAR data were collected for the Copper River project during August and periodic discharge measurements were made at the Million Dollar Bridge, and bridges 330, 340, and 342. The Million Dollar Bridge was equipped with a non-contact (radar) stage sensor that worked well during the open-water season.

The focus of work with the Matanuska-Susitna Borough in 2005 was to better define the connectivity between ground water and lakes in the Mat-Su Valley. Five lakes—Big Lake, Seymour Lake, Memory Lake, Cottonwood Lake, and Lake Lucille—were sampled in August and September for nutrients, chlorophyll, and stable isotopes of hydrogen and oxygen. Ground water in three wells surrounding each lake also was sampled.

A study comparing restored/reclaimed placer mined streams to unrestored mined streams in the Birch Creek watershed near Fairbanks continued with funding from the Bureau of Land Management. In 2005, additional sampling was done for mercury.

Reports published in 2005

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